IL 100-106 Alternatives Carried Forward Cost and Impact Matrix – October 2018

Category Measure north north north south south south 300 feet south south south south south south south 4,500 feet south New Right-of-Way Acres 27.3 32.9 45.8 90.1 Estimate of Probable Construction Cost Current (Millions of Dollars) \$ M \$70.6M \$77.6M \$77.3M \$72.1M Main Bridge Length Feet 3,165 3,167 3,167 1,816 New Roadway Length Miles 0.8 1.0 1.2 3.6 Adverse Travel (Florence) User Delay Cost (S/yr.) \$15.5K \$17.2K \$20.1K \$136.8K Adverse Travel (Through Travel) User Delay Cost (S/yr.) \$0 \$0 \$0 \$0 Constructability A Subjective (described) 1 1 1 4 4 4 4 6 9 \$0			4A	4C	4C/D	5B
New Right-of-Way	Category	Measure	100 feet	100 feet	300 feet	4,500 feet
Estimate of Probable Construction Cost			north	south	south	south
Sylvariant Syl	New Right-of-Way	Acres	27.3	32.9	45.8	90.1
New Roadway Length	Estimate of Probable Construction Cost	,	\$70.6M	\$77.6M	\$77.3M	\$72.1M
Second Parce Seco	Main Bridge Length	Feet	3,165	3,167	3,167	1,816
Adverse Travel (Florence) (\$/yr.) User Delay Cost (\$/yr.) Subjective (described) Forest Land ** Acres Acres 16.9 Wet Hoodplain Forest Acres Acres 14.8 13.4 12.4 5.2 Wet Floodplain Forest Acres Acres 6.3 8.2 12.0 5.0 Wet Meadow Acres 4.7 Acres 4.7 Acres 4.7 Acres 4.7 Acres Met Floodplain Forest Acres Acres 6.3 8.2 12.0 5.0 Wet Meadow Acres 4.7 1.4 0.4 0.2 Wetland Pond Acres 0.6 0.0 0.0 0.0 Water Feature Crossed ** Each 1 River Crossing (Illinois) Each 1 Lake Crossing (Ferry) Each 0 1 1 1 1 1 1 1 1 1 1 1 1	New Roadway Length	Miles	0.8	1.0	1.2	3.6
Subjective (described) 1	Adverse Travel (Florence)		\$11.5K	\$17.2K	\$20.1K	\$136.8K
Constructability	Adverse Travel (Through Travel)		\$0	\$0	\$0	\$0
Wetlands ^c Acres 14.8 13.4 12.4 5.2 Wet Floodplain Forest Acres 6.3 8.2 12.0 5.0 Wet Forbland Acres 3.2 3.9 0.0 0.0 Wet Meadow Acres 4.7 1.4 0.4 0.2 Wetland Pond Acres 0.6 0.0 0.0 0.0 Water Feature Crossed ^D Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland ^f Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas ^G Acres 3.0 3.3 2.9 0.	Constructability ^A	•	1	1	1	4
Wet Floodplain Forest Acres 6.3 8.2 12.0 5.0 Wet Forbland Acres 3.2 3.9 0.0 0.0 Wet Meadow Acres 4.7 1.4 0.4 0.2 Wetland Pond Acres 0.6 0.0 0.0 0.0 Water Feature Crossed P Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 River Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Other Each 0 1 1 0 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # 215 270 86 197<	Forest Land ^B	Acres	16.9	30.4	38.4	26.9
Wet Forbland Acres 3.2 3.9 0.0 0.0 Wet Meadow Acres 4.7 1.4 0.4 0.2 Wetland Pond Acres 0.6 0.0 0.0 0.0 Water Feature Crossed D Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain E Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area L Acres 0.2 1.	Wetlands ^C	Acres	14.8	13.4	12.4	5.2
Wet Meadow Acres 4.7 1.4 0.4 0.2 Wetland Pond Acres 0.6 0.0 0.0 0.0 Water Feature Crossed D Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain E Acres 26.2 25.4 25.5 41.1 Floodplain E Acres 26.2 25.4 25.5 41.1 Floodplain E Acres 13.0 7.3 14.9 59.0 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area I Acres 0.2 <	Wet Floodplain Forest	Acres	6.3	8.2	12.0	5.0
Wetland Pond Acres 0.6 0.0 0.0 Water Feature Crossed D Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0	Wet Forbland	Acres	3.2	3.9	0.0	0.0
Water Feature Crossed D Each 1 3 3 1 River Crossing (Illinois) Each 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain E Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area D Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster D Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10	Wet Meadow	Acres	4.7	1.4	0.4	0.2
River Crossing (Illinois) Each 1 1 1 1 Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain E Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area L Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster L Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) K Each 0 0 0 0	Wetland Pond	Acres	0.6	0.0	0.0	0.0
Lake Crossing (Ferry) Each 0 1 1 0 Other Each 0 1 1 0 Floodplain Eloodplain Eloodplain Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland Floodplain Acres Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas Acres Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance Hloodplain Present - Hloodplain Acres Present - Hloodplain Acres 2.15 270 86 197 Regionally Noteworthy Botanical Resource Area Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence 0.2 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) Eloodplain Acres Ac	Water Feature Crossed ^D	Each	1	3	3	1
Other Each 0 1 1 0 Floodplain Eloodplain Eloodplain Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area L Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster J Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) K Each 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 31	River Crossing (Illinois)	Each	1	1	1	1
Floodplain ^E Acres 26.2 25.4 25.5 41.1 Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland ^F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas ^G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance ^H Present - # 215 270 86 197 Regionally Noteworthy Botanical Resource Area ¹ Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster ¹ Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) ^K Each 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 31	Lake Crossing (Ferry)	Each	0	1	1	0
Floodplain Miles 0.97 0.97 1.02 1.75 Prime Farmland F Acres 13.0 7.3 14.9 59.0 Inventoried Natural Areas G Acres 3.0 3.3 2.9 0.0 Potential Mussels Disturbance H Present - # Regionally Noteworthy Botanical Resource Area Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster Acres Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) Displacements (Residential) K Each Displacements (Commercial) Each Parcels with Right-of-Way Impacts Each 7 9 9 31	Other	Each	0	1	1	0
Prime Farmland F Acres Inventoried Natural Areas G Acres Acres Acres 3.0 Potential Mussels Disturbance H Present - # Regionally Noteworthy Botanical Resource Area Acres Decurrent False Aster Acres Present - # Present - # 1.25 1.15 0.49 Cultural Resources (Section 106/ Section 4(f)) Displacements (Residential) K Each Displacements (Commercial) Each Parcels with Right-of-Way Impacts Each Acres 3.0 3.3 2.9 0.0 86 197 198 199 31	Floodplain ^E	Acres	26.2	25.4	25.5	41.1
Inventoried Natural Areas ⁶ Potential Mussels Disturbance ^H Regionally Noteworthy Botanical Resource Area ^I Decurrent False Aster ^J Cultural Resources (Section 106/ Section 4(f)) Displacements (Residential) ^K Displacements (Commercial) Parcels with Right-of-Way Impacts Acres 3.0 3.3 2.9 0.0 3.3 2.9 0.0 19 2.6 0.0 1.9 2.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Floodplain	Miles	0.97	0.97	1.02	1.75
Potential Mussels Disturbance H Regionally Noteworthy Botanical Resource Area H Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster H Cultural Resources (Section 106/ Section 4(f)) Displacements (Residential) K Each 0 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 9 31	Prime Farmland ^F	Acres	13.0	7.3	14.9	59.0
Regionally Noteworthy Botanical Resource Area Acres 0.2 1.9 2.6 0.0 Threatened & Endangered Species Presence Decurrent False Aster Acres Presence 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) Each 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 3 31	Inventoried Natural Areas ^G	Acres	3.0	3.3	2.9	0.0
Threatened & Endangered Species Presence Decurrent False Aster J Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) K Each 0 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 31	Potential Mussels Disturbance H	Present - #	215	270	86	197
Decurrent False Aster J Present - # 1.25 1.15 0.49 0 Cultural Resources (Section 106/ Section 4(f)) 4 3 2 10 Displacements (Residential) K Each 0 0 0 6 Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 31	Regionally Noteworthy Botanical Resource Area	Acres	0.2	1.9	2.6	0.0
Cultural Resources (Section 106/ Section 4(f))43210Displacements (Residential) KEach0006Displacements (Commercial)Each1000Parcels with Right-of-Way ImpactsEach79931	Threatened & Endangered Species Presence					
Displacements (Residential) KEach006Displacements (Commercial)Each100Parcels with Right-of-Way ImpactsEach79931	Decurrent False Aster ^J	Present - #	1.25	1.15	0.49	0
Displacements (Commercial) Each 1 0 0 0 Parcels with Right-of-Way Impacts Each 7 9 9 31	Cultural Resources (Section 106/ Section 4(f))		4	3	2	10
Parcels with Right-of-Way Impacts Each 7 9 9 31	Displacements (Residential) ^K	Each	0	0	0	6
0 7 1	Displacements (Commercial)	Each	1	0	0	0
Divided Parcels Each 2 1 1 9	Parcels with Right-of-Way Impacts	Each	7	9	9	31
	Divided Parcels	Each	2	1	1	9

- A. "Constructability" refers to difficulty of construction, subjectively rated, with 1 being the most difficult and 4 being the least difficult.
- B. Forest Land evaluated by aerial photographs.
- C. Wetlands evaluated by field verified delineations (Illinois Natural Heritage Survey (INHS), July and August, 2017). Wetland totals may not sum due to rounding.
- D. Water Features Crossed distinguishes the Illinois River, Ferry Lake, and the unnamed body of water east of Ferry Lake.
- E. Floodplains evaluated by the 2016 files maintained by the Federal Emergency Management Agency (FEMA).
- F. Prime Farmland evaluated by available data from previous studies.
- G. Inventoried Natural Areas are from the Illinois Heritage Database (IHD, 2016).
- H. Potential Mussel Disturbance reports the number of mussels found and relocated during an INHS survey (August 2017). No state or federal listed threatened or endangered species were found.
- I. Regionally Noteworthy Botanical Resource Area report area assessed by the INHS (September 2018). No state or federal listed threatened or endangered species were found.
- J. Decurrent False Aster reports area of plant habitat assessed by the INHS as surveyed (June 2017).
- K. Displacements are based on available photographs and parcel boundaries from Pike and Scott counties (2016).

Color-Code Key

Relatively high benefit or low impact
Relatively moderate
benefit or moderate impact
Relatively low benefit or high impact